



GENORACLE

# Leuphasyl

**Purity: >99% (HPLC on request) | Molecular Formula: C<sub>29</sub>H<sub>39</sub>N<sub>5</sub>O<sub>7</sub>**  
**Molecular Weight: 569.659 g/mol | Sequence: Tyr-D-Ala-Gly-Phe-Leu**

## DESCRIPTION:

Leuphasyl, pentapeptide-18, is a five amino acid peptide that reduces the depth of wrinkles by contraction of facial muscles. It is an enkephalin modified for enhanced stability that modulates acetylcholine activity in neuron cells and catecholamine release. Leuphasyl targets the wrinkle-formation mechanism of the expression of wrinkles in a unique way, offering an alternative to other cosmetic peptides like argireline and SNAP-8. It is important to note that leuphasyl and argireline

have a synergistic effect. For 28 days, a cream containing 5% argireline solution and a 5% leuphasyl solution was applied twice daily to the eyes of 43 volunteers. 24.62% wrinkle reduction was observed in the participants using the solution. Due to their complementary mechanisms, both peptides show additive effects. Leuphasyl indicates a proven efficacy for improving firmness and skin tone, reducing fine lines and wrinkles, and moisturizing the skin.

## PROTOCOL:

**Content & Potency:** 0.5%GHK-Cu + 0.2%Argireline + 0.5%Leuphasyl in topiclick provided as a 30 ml bottle  
**Suggested dosage:** Apply 1ml (4 clicks) to face once daily before bedtime

## CLINICAL RESEARCH:

### The Efficiency and Safety of Leuphasyl—A Botox-Like Peptide

Peptides of synthesis are a very new strategy in cosmetic science and technology for at least two reasons: (1) they are small molecules, easily penetrable in the skin and (2) they are able to induce a very specific action, because all skin cells (keratinocytes, fibroblasts, nervous cells) have membrane receptors for peptides. This group of cosmeceutics includes the botox-like peptides, represented by acetyl hexapeptide 3 (Argireline) and pentapeptid-3 (Leuphasyl). The latter is less known and has been less studied. This substance inhibits the neuromuscular synapses in the mimic muscles, acting as enkephalins. It links the enkephalin receptor to nervous cells, thereby modulating the release of acetylcholine in synaptic space. This cellular activity will be translated in vivo

in a relaxation of the muscle and a reduction of expression wrinkles. The aim of our study is to evaluate the optimal concentration of Leuphasyl for skin application at the mimic muscle level, the efficiency and the safety of this peptide. We formulated three emulsions of different concentrations (0.5%, 1%, 2%) which were applied to the skin, at the level of mimic muscles (1) at the eyebrows zone (above the corrugator supercillii muscle) and (2) at the periorbital zone (above the orbicularis oculi muscle). We evaluated the regression of the wrinkles between the eyebrows using an imagistic method: pro-derm Analyser. The study is of interest to discussions concerning how to apply these kinds of cosmetic products at the mimic muscle skin level and not at the level of the wrinkles.

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